

CLASSIFICATION **CONFIDENTIAL**  
 CENTRAL INTELLIGENCE AGENCY  
 INFORMATION FROM  
 FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT

50X1-HUM

CD NO.

COUNTRY USSR

DATE OF  
INFORMATION 1950

SUBJECT Economic; Technological - Coal mining machinery

DATE DIST. *12* Jun 1950HOW  
PUBLISHED Monthly periodical

NO. OF PAGES 1

WHERE  
PUBLISHED MoscowDATE  
PUBLISHED Jan 1950SUPPLEMENT TO  
REPORT NO.

LANGUAGE Russian

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE  
 OF THE UNITED STATES WITHIN THE MEANING OF ESPIONAGE ACT 80  
 U. S. C., 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION  
 OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PRO-  
 HIBITED BY LAW. REPRODUCTION OF THIS FORM IS PROHIBITED.

THIS IS UNEVALUATED INFORMATION

SOURCE Ugol', No 1, 1950.THE USE OF T-590 ALLOY ON CUTTING BITS

Engr. B. M. Bychkov  
 N. M. Pavlenko

Bits for coal cutters and combines are coated with T-590 alloy to increase their hardness and resistance to wear. The coating is applied through the electric arc medium, using an electrode with a low-alloy core of 3-4 millimeters' diameter. The core is coated with a composition containing water glass, ferrochrome, boron carbide, and argentiferous graphite.

T-590 excels powdered stellite, granules of gray iron, "vokar," SG electrode alloy, and other recognized alloys in the following respects: it is possible to renew the bits coated with it up to 10 times, without previous reshaping in the forge; after the alloy has been fused onto the bit, its durability may be increased by simple tempering with equipment readily available at any mine; components going into the make-up of the electrode coating are easily obtainable; the boride crystals present in T-590 have a great abrasive quality.

Tests have shown that resistance to wear of ordinary cutting bits coated with T-590 was 1.9-2.4 times greater than that of similar bits armed with stellite, while the area of wear was on an average 34 percent less.

Sufficient tests have not yet been conducted on compounding boron carbide with iron and chrome. Boron carbide still presents a problem, for while it increases the hardness of the alloy, it also makes it more brittle.

- E N D -

- 1 -

**CONFIDENTIAL**

CLASSIFICATION		CONFIDENTIAL											
STATE	<input checked="" type="checkbox"/> NAVY	<input checked="" type="checkbox"/> NSRB		DISTRIBUTION									
ARMY	<input checked="" type="checkbox"/> AIR	<input checked="" type="checkbox"/> FBI											